

REMARKS

Claim Rejections

Claims 1, 2, 5, 9-15, 18 and 22-26 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Dohogne (4,973,872). Claims 3, 4, 6, 8-17, 19 and 21 stand rejected under 35 U.S.C. § 103(a) as being rendered obvious by the aforementioned reference to Dohogne taken in view of Takeda (5,828,152). Claims 1 and 14 stand further rejected under 35 U.S.C. § 112, second paragraph. Claims 7 and 20 are objected to as being dependent upon a rejected base claim, but indicated as being otherwise allowable.

Claim Amendments

Applicants have amended claims 1, 6, 8-14, 19 and 21-26 as noted above, and have canceled claims 2-5, 7, 15-18 and 20. Claims 1 and 14 have been amended to overcome the outstanding rejections under 35 U.S.C. § 112 and to include the allowable subject matter of claims 7 and 20, respectively. Thus, amended claim 1 corresponds to a combination of original claims 1, 5 and 7, thereby effectively redrafting claim 7 in independent form, while independent claim 14 has been amended to include original claims 18 and 20, thereby redrafting allowable claim 20 in independent form. The remaining dependent claims have been amended to utilize terminology consistent with the amended independent claims, and to correct obvious grammatical and idiomatic inaccuracies.

Since all of the claims remaining in this patent application contain subject matter indicated as being allowable, no detailed discussion of the cited prior art references is believed to be necessary.

Version With Markings To Show Changes Made

Attached hereto is a marked-up version of the changes made to the application by the current amendment. The attached document is captioned VERSION WITH MARKINGS TO SHOW CHANGES MADE.

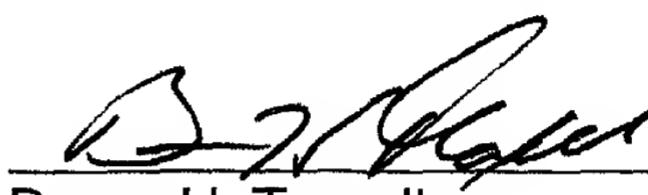
Summary

In view of the foregoing amendments and remarks, Applicants submit that this application is now in complete condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicants' local attorney be contacted at the exchange listed below.

Respectfully submitted,

Date: January 21, 2003

By:



Bruce H. Troxell
Reg. No. 26,592

TROXELL LAW OFFICE PLLC
5205 Leesburg Pike, Suite 1404
Falls Church, Virginia 22041
Telephone: 703 575-2711
Telefax: 703 575-2707

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 2-5, 7, 15-18 and 20 have been canceled.

Claims 1, 6, 8-14, 19 and 21-26 have been amended as follows:

--1. (Amended) A permanent magnet rotor magnet positioning and retaining device comprising:

a sleeve having a hollow tubular structure;

5 a rotor iron core having a plurality of grooves [circumferentially provided in the proper locations] and located inside said sleeve[;], wherein said rotor iron core includes a plurality of steel plates stacked together, each steel plate having a plurality of elevations on one side and a plurality of corresponding depressions on an opposite side, the steel plates being stacked one upon another with coincident depressions, so as to provide a proper orientation;

10 a plurality of arc-shaped permanent magnets of alternating poles [being] provided between said sleeve and said rotor iron core, and being [separated] circumferentially spaced from one another, [by said dividers] said arc-shaped permanent magnets each having a cut-off area [in the] on outer perimeter corners of two adjacent permanent magnets so as to form a [near] triangle-shaped region

15 between two adjacent permanent magnets; and

a plurality of dividers, each being provided between two adjacent permanent magnets of alternating poles, having:

a base [being] closely [engaged] engaging with [a groove] one of the plurality of grooves so that the dividers are secured to the rotor iron core;

20 a trunk [for] filling [the] a gap between two adjacent permanent magnets so as to prevent said permanent magnets from moving in a circumferential direction; and

a rim having a [near] triangle-shaped structure in [close] contact with said cut-off area so as to prevent the permanent magnets from moving in a radial direction.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

25 6. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device of claim [5] 1, wherein said steel plates are silicon steel plates.

30 8. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device of claim [5] 1, wherein said steel plate further comprises a shaft hole in [the] a center thereof and a plurality of narrow arc-shaped holes circumferentially provided [in the proper locations] around said shaft hole.

9. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device of claim [5] 1, wherein said steel plates are stamp-fabricated.

10. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device of claim 1, wherein four permanent magnets and four dividers are [being] provided.

11. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device of claim 1, wherein said grooves are rectangle-shaped grooves [capable of] fitting closely with [said bases of] rectangle-shaped [protrusions] bases so that said grooves and said bases are in tight engagement.

12. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device of claim 1, wherein said grooves are trapezoid-shaped grooves [capable of] fitting closely with [said bases of] trapezoid-shaped [protrusions] bases so that said grooves and bases are engaged in sliding fashion.

13. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device of claim 1, wherein said dividers are made from a hard material having poor [or none] magnetic conductivity.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

14. (Amended) The permanent magnet rotor magnet positioning and retaining device comprising:

a sleeve having a hollow tubular structure;

a rotor iron core having a plurality of grooves [circumferentially provided in the proper locations] and located inside said sleeve[;], wherein said rotor iron core includes a plurality of round steel plates stacked together, each steel plate having a plurality of elevations on one side and a plurality of corresponding depressions on an opposite side, the steel plates being stacked one upon another with coincident depressions, so as to provide a proper orientation;

a plurality of arc-shaped permanent magnets of alternating poles [being] provided between said sleeve and said rotor iron core, and being [separated] circumferentially spaced from one another, [by said dividers] said arc-shaped permanent magnets each having a cut-off area [in the] on outer perimeter corners of two adjacent permanent magnets so as to form a [near] triangle-shaped region between two adjacent permanent magnets; wherein

said rotor iron core further comprises [a plurality of circumferentially provided grooves for separating two arc-shaped permanent magnets of alternating poles and] a plurality of dividers, each being provided between two adjacent arc-shaped permanent magnets of alternating poles;

each of said [divider] dividers, between the rotor iron core and the sleeve, further [comprises] comprising a base [being] engaged with [a groove] one of the plurality of grooves so that the dividers are secured to the rotor iron core, a trunk [capable of] filling [the] a gap between two adjacent permanent magnets to prevent said permanent magnets from moving in a circumferential direction, and a [near] triangle-shaped rim [capable of] forming tight engagement with said cut-off area so as to prevent the permanent magnets from moving in a radial direction.

19. (Amended) [A] The permanent magnet rotor positioning and retaining device of claim [18] 14, wherein said steel plates are silicon steel plates.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

21. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device fo claims [18] 14, wherein said steel plate further comprises a shaft hole in [the] a center thereof and a plurality of narrow arc-shaped holes center thereof and a plurality of narrow arc-shaped holes circumferentially provided [in the proper locations] around said shaft hole.
22. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device fo claims [18] 14, wherein said steel plates are stamp-fabricated.
23. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device fo claims 14, wherein four permanent magnets and four dividers are [being] provided.
24. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device fo claims 14, wherein said grooves are rectangle-shaped grooves [capable of] fitting closely with [said bases of] rectangle-shaped [protrusions] bases so that said grooves and said bases are in tight engagement.
25. (Amended) [A] The permanent magnet rotor magnet positioning and retaining device fo claims 14, wherein said grooves are trapezoid-shaped grooves [capable of] fitting closely with [said bases of] trapezoid-shaped [protrusions] bases so that said grooves and said bases are engaged in sliding fashion.
26. [A] The permanent magnet rotor magnet positioning and retaining device fo claims 14, wherein said dividers are made from a hard material having poor [or none] magnetic conductivity.--